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ABSTRACT

An occupational education and career education program was planned for the new Milford, Mass. high school in which "occupational education" was defined as stressing training and guidance for occupations requiring no more training than up through the fourteenth year. The program provides for the half-day student and for the 5- or 10-period per week student. Accommodation could be made for the associated student who needs the facilities but is not enrolled in an occupational education course for grading purposes. Half-day students would take a concentration in a cluster of specialized programs or in one specialized course. The shorter-time students would take exploratory or acquaintance specialized programs. Both would select programs from the instructional programs specified in the document. The programs include: child care; geriatric care and domestic service; housekeeping, attendant work, and food serving; drafting and design; occupational graphic arts; cabinetmaking, furniture repair and fabrication, and upholstery; electrical skills and electronics; small motor, appliance, machine, and instrument repair; building and grounds maintenance; automotive services and small engines; air conditioning and refrigeration; distributive education; bookkeeping/record keeping; office occupations; data processing; and entrepreneurship and managerial work. (AG)

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PROGRAMS FOR OCCUPATIONAL EDUCATION FOR GRADES 9-12 AT MILFORD MASSACHUSETTS

MAY 1972

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Engelhardt and Engelhardt, Inc. ◆ Educational Consultants

PROGRAMS FOR OCCUPATIONAL EDUCATION

FOR GRADES 9-12

AT MILFORD, MASSACHUSETTS

MAY 1972

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PREFACE

This document is an attempt to set a new benchmark for the implementation of a new occupational education program in Milford, Massachusetts. Many documents have been written on the proposed programs. These are condensed and edited as best as time permits into these descriptions of programs. Flexibility exists within the programs. For instance, the building and grounds maintenance course area could be converted easily to a course resembling Minnesota's exemplary Materials Technology Curriculum in conjunction with adjacent cabinetmaking facilities. This change of course would require approval of the State Department of Education.

The major emphasis in this document is to conveniently designate intended inputs and sample outcomes of the courses to be given during the first few years of operation for the new Milford High School.

Two additions of space have been proposed in this statement of programs. The first addition, an auto service and small motors shop, is the result of adding this course to the curriculum. The second addition is the expansion of the former custodial occupations and building maintenance course. The new course, Building and Grounds Maintenance (BGM), now has a space of its own including a metals area.

Some realignment of courses is suggested. Construction wiring is taken out of electricity and given added worth in BGM. Small engines were taken out of appliance repair.

Furthermore, all occupational courses are now listed in one volume. The term course as used in this booklet does not infer any scheduling arrangement. Scheduled courses will be changed from year to year and will probably be formed by clusters of units. Not all skills will be taught in any one year. Cooperative training experiences will be tied to most courses and are not listed separately as a course.

It is anticipated that this document will be revised after the staff has begun to design a curriculum following the opening of school. Revision will not involve altering the broad goals of the program, but will involve the setting of sequences and narrowing goals through establishing priorities.

Under no circumstance will any of the changes suggested by these programs bring about an increase in the cost of the school beyond that anticipated when the bond issue was approved by vote. If costs must be cut, one of the new courses will probably be eliminated since the older courses were generally less expensive to equip.

Occupational vs. Career Education

At the time of planning the new high school for Milford, "occupational education" was a new term signifying changes in funding laws and goals for high schools in this nation. The new concept was created during attempts to solve problems in the expansion of opportunities for learning marketable skills (expanding vocational education) and upgrading the relevancy of skills learned in the existing industrial arts and home economics programs. Occupational education also served as a new focal point for departments having career guidance and vocational skill development concerns. Business, special education, home economics, industrial arts, graphics, and vocational programs could all join in what might be called an occupational conglomerate. Tangential to this concern would be teachers in other departments interested in career guidance - teachers in fine arts, science, and possibly foreign language.

Recently, the term "career development" has expanded the concept of occupational education. Rather than defining this new concept, which is still not defined in a uniform fashion, let it be known that "occupational education," as we define it, stresses a portion of career education. Occupational education stresses training and guidance for occupations requiring no more training than up through the 14th year (2 years of study after graduation from high school). Career guidance for all occupational avenues is provided by the school, but not completely funded with occupational monies. For instance, training through such courses as chemistry and economics; or guidance pertaining to jobs in economics, veterinary medicine, and dentistry, are not to be funded under the occupational laws except for possibly pre-secondary education experiences.

"Career education" expands to a K-12 concept with broad awareness training for appreciation of roles in the world of work for elementary and middle school students. It continues in secondary school, involving a wide range of preparation programs including those for attendance at college. For elementary and middle school programs, occupational education primarily concerns itself with providing students with the awareness of opportunities and roles that are offered by our society without four or more years of college. Its aim, as with career education, is to channel students into roles that will allow for a fulfilled life. Career education has come to mean such a broad concern that all facets of schooling are included in its domain. Occupational education restricts its concerns to be more congruent with existing laws and funding sources. As "career education" becomes better defined, it may be a synonymous term with "Occupational education."

The Need for Occupational Education and Career Education

Despite the increase of leisure time, occupations utilize a very large part of our waking hours. Furthermore, an individual's occupation often influences his aspirations and can limit time available for leisure-time activities as diverse as reading, sports, or participation in government. Even with awareness of the importance of occupational choices (often made unwittingly even when a college is chosen), parents and schools have had few resources on which traditional guidance advice can be based. In fact, if the student receives guidance only from those who have never worked in the trades, manufacturing, business offices, or service industries, the student may never have a realistic idea of what it means to choose any occupation but a profession.

It appears that schools (rather than families) are best prepared to mobilize, under new laws and spirit, the resources needed to allow students the opportunity to make valid career choices. If so, public elementary and secondary education should pay attention to such an essential facet of life as a student's occupational future. In this sense, occupational education involves all choices in a school's curriculum.

Aside from protecting an individual from an unwise choice made in ignorance, schools also must serve the society which created the educational system. There is serious doubt that our nation needs an unlimited number of college graduates. Salaries may reflect the need for certain occupations. Apart from a few highly paid professions, college men and women often receive lower salaries tha skilled workers. If one knows many skilled workers, one must admit that the individual does not have to go to college for a fulfilled life with challenge, respect, and moderate income.

Recent layoffs of engineering and scientific personnel have further supported the theory that too many chiefs and too few Indians may cause serious economic consequences.[1] The issue has aroused significant challenges to manpower programs from Washington in regard to sponsorship of educational financing and propaganda for attending college.[2]

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1 Examples of such articles are:

a. "Route 128: Jobless in a Dilemma about Politics, Their Professions," Science 172: 1116, June 11, 1971.

b. Frederick E. Terman, "Supply of Scientific and Engineering Manpower: Surplus or Shortage?", Science 173: 399-405, July 30, 1971.

c. Dael Wolfle and Charles V. Kidd, "The Future Market for Ph.D's, Science 173: 784-793, August 27, 1971.

2 Ibid., pp. 791-792

Grant Venn has summarized the feeling of new respect for jobs not requiring college degrees:

> Probably the greatest problem we have in education today is the belief that a college degree or even a few months in college will automatically be better than any other possible experience. This simply isn't true for everyone. In fact, many of our most able and academically talented are asking if it is true even for them...College is no guarantee of a happy career, a successful life, or even a mark of achievement. No student should be counseled to go to college unless his studies will lead to a goal set by that student. ...Our intellectual snobbishness regarding college has damaged many young people and is crippling our public school system.[3]

What confounds such realistic thinking is the Department of Labor's very optimistic projections for the increase in professional, technical workers, or white collar workers in general.[4]

It should be considered the province of the occupational advisory board to use forecasts of needs for professional as well as skilled and technical workers. Not until the entire range of occupations is brought together in one domain of concern can appropriate decisions be made for curricular offerings and for an individual's guidance. This advisory board can create advisory committees to advise department chairmen, coordinators, or instructors on specific courses or programs. Under all circumstances, the Advisory Board for Occupational Education will advise the school committee which will be invested with actual decision-making authority.

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3 Grant Venn, Man, Education, and Manpower. (Washington: American Association of School Administrators, 1970), pp. 97-98.

4 U. S. Department of Labor, U. S. Manpower in the 1970's: Opportunity and Challenge. (Washington: Government Printing Office, 1970), pp. 10, 13.

It is essential that the district realize that Occupational Education is not traditional vocational education, nor is it purely non-occupationally-oriented industrial arts. Occupational education should give students the ability to adapt to changes in job opportunities. Career clusters or training in diverse occupations using the abilities inherent in a student are ingredients of proper curricular planning. Occupational education is a program which combines introductory vocational education, trade and industrial education, agricultural education, industrial cooperative training, distributive education, special education, business and office education, industrial arts, and home economics. It involves, but often does not fund, departments in fine arts, science, mathematics, social studies, and other departments which may wish to modify their program for non-college students. For Milford, occupational education may imply preparing approximately 50 per cent of students for gainful employment immediately after graduation from high school. Twenty per cent of these students may wish to go on to technical or junior colleges full or part time. Attaining job skills could also aid students if they must pay their way through higher education. Other students (possibly 15 per cent) in the high school could be stimulated (but not fully trained) by the occupational program so that they may wish to pursue postgraduate technical courses in the regional vocational school, junior colleges, and technical colleges; these students are termed "pre-vocational." (See Figure 1 for further explanation.)

The remaining 35 per cent of the students will be college preparatory, optionally gaining an entry skill for business or industry. Aside from a financial advantage in possessing a marketable skill, occupational education can give the

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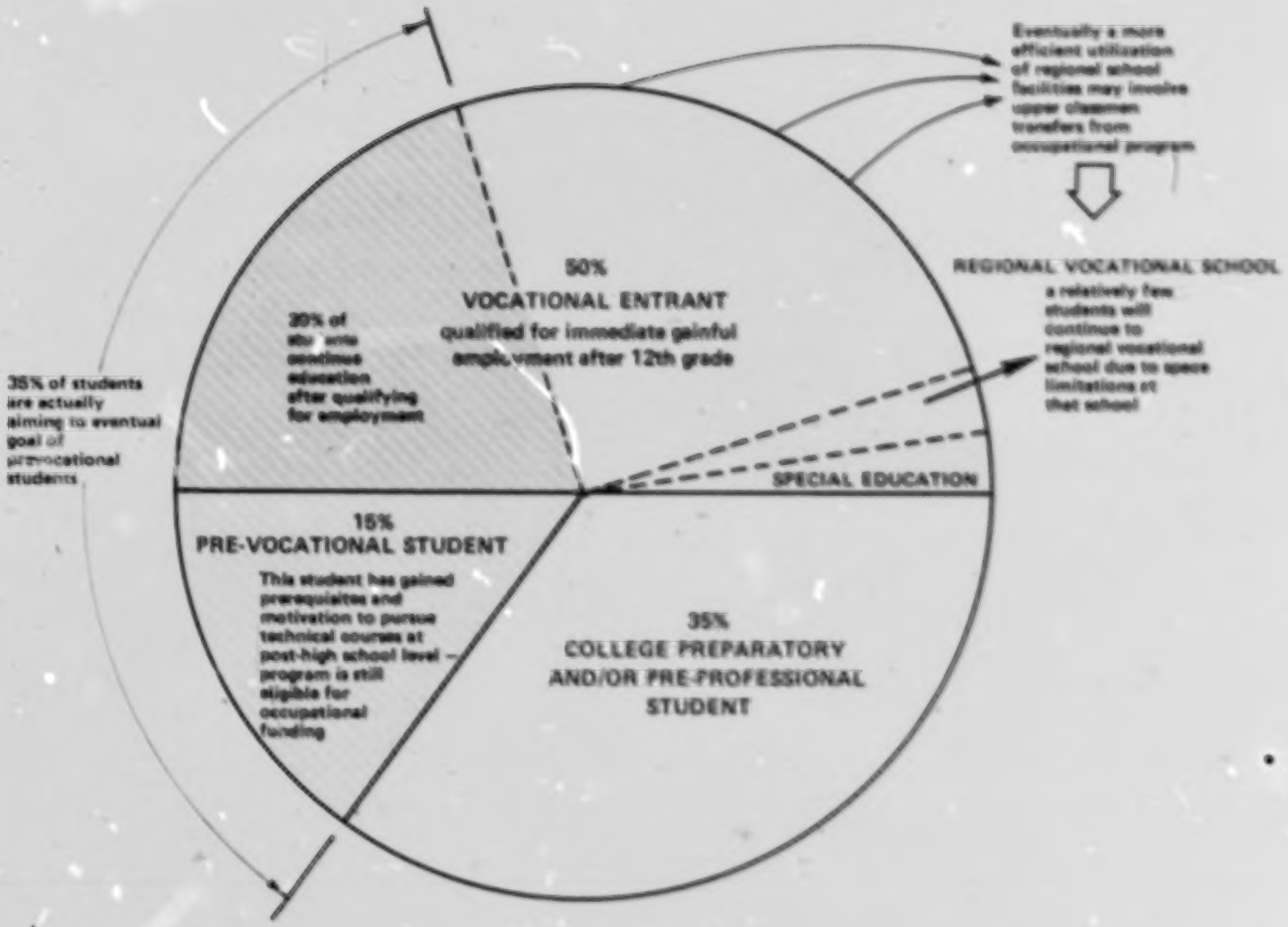
FIGURE 1

AN OVERVIEW OF THE MILFORD OCCUPATIONAL PROGRAM

Anticipated Per Cents of Student Body with Various Goals for Future
Milford, Massachusetts


Eventually a more efficient utilization of regional school facilities may involve upper classmen transfers from occupational program
REGIONAL VOCATIONAL SCHOOL
a relatively few students will continue to regional vocational school due to space limitations at that school
50%
VOCATIONAL ENTRANT
qualified for immediate gainful employment after 12th grade
20% of students continue education after qualifying for employment
35% of students are actually aiming to eventual goal of pre-vocational students
SPECIAL EDUCATION
15%
PRE-VOCATIONAL STUDENT
This student has gained prerequisites and motivation to pursue technical courses at post-high school level – program is still eligible for occupational funding
35%
COLLEGE PREPARATORY AND/OR PRE-PROFESSIONAL STUDENT

Administratively, it may be convenient to divide students into three sections to estimate future demand for occupational facilities.

college preparatory student a well rounded experience and make him more certain that college, rather than a technical-vocational future, is the exciting future he wishes. Rather than meeting failure in an academic atmosphere, many bright students choose a successful route in occupations heretofore unknown to most students. For the college-bound youngster, occupational education gives added awareness of occupational choices and allows him to associate with and appreciate the non-college-bound student in class activities. Skills gained in occupational courses are extremely useful in an area like Milford where many home owners service their own needs. For women workers, home economics instruction can help production on the job. It should be noted that with a fully operational program in occupational education (see Figure 1), there is no "general curriculum" student. Milford has adopted an integrated program of "occupational education" rather than those programs of traditional vocational or industrial arts education. The new Milford High School will take a giant step in providing occupational entry skills to those previously classified as general students, often referred to as the "gray area student" in national literature.

Because stress on marketable skills will be made in the occupational conglomerate, it should be emphasized that shop experiences also serve <u>at least</u> three other goals:

1. To allow and develop expression in a respected, acceptable mode of activity which is nonverbal - develop avocational oriented skills.

2. To develop attitudes toward work which might not be gained by some students in other courses.

3. To give some practice in home maintenance skills needed by home owners and others involved in dealing with a society which is technologically oriented.

These three goals are compatible with occupational training; they may differ only in the number of hours spent in these areas and funding sources. For instance, if we are training some students for appliance repair, girls may have a mini-course in appliance operation theory in the same shop (possibly taught by the students having a concentration in that field). These elective courses will serve as exploratory courses which are intended to serve a guidance function. Exploratory courses will be used to interest students in vocational concentration in some areas, rather than aimlessly follow a "college preparatory" program. Even if a student decides against following through on an exploratory course, the experience has had its own practical value.

Scheduling and Types of Students

The area vocational school at Milford aims to complement and supplement career opportunity education now provided at the regional vocational-technical school. Relationships involving transfer students at upper grades will hopefully evolve.

For Milford, there are many ways to schedule students. Individualized instruction may evolve with the development of performance standards which would replace time standards now associated with many vocational courses in other schools. Eventually skill levels rather than the time spent in class should be the standard of achievement. However, for planning purposes time standards will be used.

During the first year of operation, introductory programs will be stressed. As students acquire basic skills, more advanced courses can be offered, finally culminating in a cooperative training program.

Two types of students enroll in occupational education. The first, formerly called a vocational student, is the half-day student. He spends minimum state time requirements in shops (presently four hours a day). The second type of student, formerly called an industrial arts student, is enrolled in the shops one or two periods a day in exploratory or special interest courses. This student is designated as a 5- or 10-period-per-week student.

Thought should be given to a third category of associated student who uses the facilities of occupational education but is not enrolled in a course for grading purposes. This might be the physics student who uses the cabinetmaking or electronics shop for a project. He will probably receive aid from a half-day student who knows the shop and can advise on technical use of equipment, etc.

There are many ways to schedule students, as Table 1 demonstrates. Half-day and five-period students may be combined in classes or separated by morning and afternoon blocks of time. There are advantages to both systems; the mixing of students in the same class offers a sociological advantage at the heart of occupational program theory. Concurrent teaching allows students to gain respect and understanding for each other no matter what "track" they follow. It also allows for half-day students to aid the teacher in a project-centered curriculum catering to individual progress. Half-day students can help five-period students and soon a dialogue may begin. Some teachers find it more convenient to have classes homogeneous in ability to comprehend theory. The director and his teachers will settle on which scheduling arrangement works best.

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School The New Milford High School

Date May 1972

TABLE 1

SAMPLE

OCCUPATIONAL EDUCATION SPECIFICATIONS - CONSERVATIV

If an 8 period day, an instructor for a course would have two f

Occupational Facility total space/students/ teacher(s)/period	Occupational Division Requirement area/student/teacher	Formerly Vocational Anticipated Enrollment 1/2 day	Formerly Vocational Teachers at Required Ratio	Space Provided sq. ft.	Form Anti 5 pe Conc
Child Care 2,200/30/2	1,200/20/1	30 Lunch 10	1	1,200	
Air Conditioning and Refrigeration 3,000/24/1	None	6 Lunch 6	1	3,000	
Electrical Skills and Electronics 3,000/24/1	2,200/20/1 2,500/20/1	20 Lunch None	1	2,500	

Total Students Served Per Day: 274 72 (½ day subtotal)

* A student taking 10 periods per week would absorb time for two students. Special education youngster r

** Concurrent instruction given with 1/2 day students. Separate instruction when 1/2 day students are not for 6 periods, separate for 3 periods. Extra period in 7-period day is safety factor or is used as 4 period exists in the state, and the facility is used in morning and afternoon for 1/2 day students, an riod c

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TABLE 1

SAMPLE

ONAL EDUCATION SPECIFICATIONS - CONSERVATIVE 7-PERIOD DAY

f an 8 period day, an instructor for a course would have two free periods

Formerly Vocational			Formerly Industrial Arts			
Anticipated Enrollment 1/2 day	Teachers at Required Ratio	Space Provided sq. ft.	Anticipated Enrollment 5 periods/week module* Concurrent**	Separate**	Additional Space sq. ft.	Extra Teacher
30 Lunch 10	1	1,200	— — — — Lunch Free 15 15	none	1,000	1
6 Lunch 6	1	3,000	18 18 18 Free Lunch 18 18 18		None	None
20 Lunch None	1	2,500	4 4 4 4 Lunch Free / Free 24 24		500	None at moment (Can be used in future as two teaching stations)
72 (½ day subtotal)			202 (5 periods/week subtotal)			

b time for two students. Special education youngster may take 15 periods per week.

. Separate instruction when 1/2 day students are not in room. Concurrent instruction can be scheduled

d in 7-period day is safety factor or is used as 4 period for 1/2 day students. If a 4-period requirement

ning and afternoon for 1/2 day students, an 8-period day is necessary.

Programs may also be classified as to exploratory or specialized. A narrow curriculum content would give specialized training, whereas exploratory programs will give a broad spectrum of skills. Half-day students would take a concentration in a cluster of specialized programs or in one specialized course: Five- to ten-period students would be taking exploratory or acquaintance specialized programs for a shorter period of time. For some ninth and tenth graders, the exploratory programs may amount to a half-day of instruction. For some upper classmen, an acquaintance specialization program in air conditioning-refrigeration might be an option rather than an exploratory program in the appliance-electricity cluster. Such an experience in a specialized field may serve to interest a college preparatory student in a technological career. It also serves to mix students of various career goals and may stimulate any poorly motivated students.

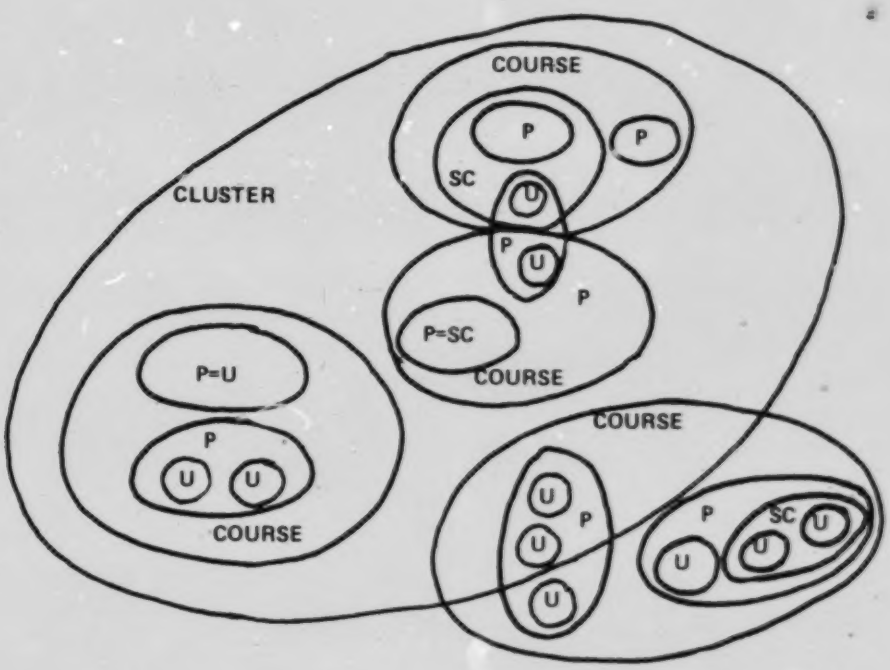
Clusters will be tailor made to existing employment forecasts and individual abilities. They can be formed by combinations of courses (whole or in part) described in the following section.

Table 2 diagrams options in student and program scheduling.

Table 2
Options in the Occupational Program
Milford High School

Student Scheduling For Full Week	Programs: Specialization Grades 9 -12	Programs: Exploratory Grades 9 & 10
5-10 period	Acquaintance Grades 9 - 12	Single Exploratory
1/2 day	Concentration Grades 10 - 12	Multiple Exploratory

The terminology of courses, units, and programs is purposefully vague to allow the future staff to arrive at a suitable scheduling arrangement. The following illustration may show the hierachy as used in this book.



CLUSTER
COURSE
SCHEDULED COURSE (SC)
PROGRAM (P)
SCHEDULED COURSE (SC)
UNITS (Instructional) (U)
PERIODS OF STUDY

Some USOE Programs can be subsumed in one course, other programs subsume various courses, such as typing I & II

THE HIERARCHY OF SOME CURRICULAR GROUPINGS

INSTRUCTIONAL PROGRAM II

Among the programs listed in this section, there are several common elements, for instance:

1. All students will have the opportunity to develop entrepreneurship skills in cluster programs involving courses in business, distributive and cooperative education. For instance, the auto service program will urge many of its students to acquire bookkeeping skills necessary for keeping records in a service station operation.

2. Programs predominantly involve tasks which are complete from start to finish, rather than preparing students for purely assembly line or partial manufacturing activities. Students will usually be prepared for such isolated operations since students often are involved in the broader tasks of repair and maintenance. DOT worker trait groups indicate this strength of the curriculum.

3. Most courses will involve a broad spectrum of student talent. Allowance will be made for reaching skill levels commensurate with student abilities. Provision for transferring to more elaborate facilities at the regional school will hopefully develop. Although concurrent (heterogeneous) or separate (homogeneous) sections are options, the same shop spaces will contain exploratory and advanced specialized courses. Students with varying degrees of expertise will communicate within concurrent sessions. Individualized, self-study will be encouraged.

The following programs are listed for the purpose of specifying architectural space needs and will be clustered for various career goals for students. The listing gives a brief course description with remarks on some distinguishing facet of the program. Dictionary of occupational title roles, plus some non-listed roles are indicated as possible job goals for students. Not every student will be prepared for all these jobs, but the opportunity to study for any of the jobs will be present in the program. Some jobs cannot

be entered without a few years of experience. The worker trait group is given as an indicator of the type of job and as a possible means around which to cluster an individual student's program of study. Pre-vocational remarks refer to jobs requiring special study following graduation from high school. Either the job title with code will be given, or the USOE program will be indicated under the pre-vocational remarks.

The programs to be offered through the occupational conglomerate are listed on the following pages. Office occupations appear for the first time in this listing with industrial education preparation; however, office occupations have always been planned elsewhere as part of the program. Facilities provided for the occupational conglomerate are:

Business Department

2 Typing Rooms
1 Bookkeeping Classroom
1 Office Machines and Practice Room
1 Shorthand Room
1 Office Practice Room
2 Classrooms (Law, Entrepreneurship)
1 Work Study Room (Cooperative Office Occupations)
1 Data Processing Room
1 Distributive Education Suite (Retailing Classroom and Store)

Homemaking Department

2 Child Care Rooms
1 Foods Laboratory
1 Clothing Laboratory
1 Housekeeping Room (768 square feet) (Geriatric and Housekeeping...)

Trades and Industrial Education Department

1 Double Drafting Room
1 Cabinetmaking, Furniture Repair and Upholstery Shop
1 Electrical Skills and Electronics Suite
1 Small Motor, Appliance, Machine, and Instrument Repair Shop
1 Building and Grounds Maintenance Shop*
1 Air Conditioning and Refrigeration Shop
1 Automotive Service Shop*
2 Related Classrooms*
1 Graphic Arts Shop (in cooperation with Art Department)

* These shops and one related classroom are building changes suggested with this document. Approval is pending.

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 1: CHILD CARE

NURSING ASSISTANCE (AID), USOE CODE 07.0303
A combination of subject matter and experiences designed to prepare a person to perform simple tasks involved in the personal care of individuals receiving nursing services. These tasks are performed under the supervision of a nurse.

CARE AND GUIDANCE OF CHILDREN, USOE CODE 09.0201
Preparation for various kinds of employment related to child care centers and young children, e.g., assisting directors of child day care centers or nursery schools, assisting with activities on playgrounds and in recreation centers, and caring for children in homes and in such public places as stores, playgrounds, recreation centers, and transportation terminals.

CHILD CARE CENTER ASSISTANT, USOE CODE 16.0501
(For description see 09.0201 above.)

HOSPITAL CHILDREN'S DIVISION ASSISTANT, USOE CODE 16.0502
(For description see 09.0201 above.)

CHILD DEVELOPMENT, USOE CODE 09.0102
The study of children--their physical, mental, emotional, and social growth and development--and their care and guidance. In practice, content draws on aspects of the social and biological sciences.

Remarks

This course will involve at least two years, involving theory, practice, and observation. Exploratory courses are of benefit even if not continued as a major for gaining skills for volunteer work and giving experiential guidance interesting males and females in elementary education.

Cooperative training experiences are anticipated.

Occupational Goals
Child Care

Vocational Entrant			Prevocational
DOT Occupational Title		Worker Trait Group	(1-2 yr. post graduate course required)
355.878-022	Cottage parent (medical ser.)	Child and Adult Care	
355.878-034	Nurse aid (medical ser.)	Child and Adult Care	Involves two worker trait groups:
354.878-014	Home attendant	Child and Adult Care	Nursing, X-ray, etc.
355.878-018	Child Care attendant, school	Child and Adult Care	Child and Adult Care
359.878-014	Child Care attendant, gov't.	Child and Adult Care	Courses: (USOE Code)
359.878-022	Kindergarten aide	Child and Adult Care	Nursing 07.03
359.878-026	Child Care assistant	Child and Adult Care	Nursing (Associate Degree) 07.0301
			Practical Nursing 07.0302
			Psychiatric aide 07.0304
			Occupational Therapy aide 07.0401
			Physical Therapy 07.0402
			Teacher's assistant at the preprimary level 16.0503
			Occupations: (DOT Code)
			Licensed Practical Nurse 079.378-026
			Practical Nurse 354.878-022
			Psychiatric Aide 355.878-042
			Aide 079.368-026
			Attendant 355.878-014

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 2: GERIATRIC CARE AND DOMESTIC SERVICE

OCCUPATIONAL PREPARATION, USOE CODE 09.02

The courses or units of instruction emphasizing the acquisition of competencies needed for getting and holding a job and/or preparing for advancement in an occopational area using home economics knowledge and skills. Instructional content is selected from home economics subject areas to meet the unique requirements in field, laboratory, and work experience. Occupations include those which provide (1) services to families in the home and similar services to others in group situations; (2) assistance to professional home economists and professionals in fields related to home economics in industries, agencies, and organizations, and (3) other services and/or assistance directly related to one or more home economics subject-matter areas.

HOME HEALTH AID, USOE CODE 07.0307

A combination of subject matter and experiences designed to prepare a person to assist the elderly, convalescent, or handicapped in their homes; to provide for their daily living needs which may be described as physical, mental, emotional, social, and spiritual.

INSTITUTIONAL AND HOME MANAGEMENT AND SUPPORTING SERVICES, USOE CODE 09.0205

Preparation for various kinds of employment related to institutional and home management services. These include institutional housekeeping, executive housekeeping, and hotel and motel housekeeping.

NURSING ASSISTANCE (AID), USOE CODE 07.0303

A combination of subject matter and experiences designed to prepare a person to perform simple tasks involved in the personal care of individuals receiving nursing services. These tasks are performed under the supervision of a nurse.

Remarks

This course is for a wide variety of students, some of whom may be mentally retarded. It is part of a cluster involving the hotel-motel trade. The course may lead to a practical nursing curriculum in the regional school. This course depends on a cooperative training program in convalescent homes or geriatric hospitals.

Occupational Goals
Geriatric Care and Domestic Service

Vocational Entrant			Prevocational	
DOT Occupational Title		Worker Trait Group	Program or DOT Title	
354.878-014	Home attendant (per. ser.)	Child and Adult Care	Licensed Practical Nurse	079.378-026
321.138-014	Inspectress (hotel & rest.)	Supervisory work	Practical Nurse	354.878-022
323.887-014	Maid (any ind.) II	Handling	Psychiatric aide	355.878-042
355.878-034	Nurse aid (medical ser.)	Child and Adult Care	Occupational Therapy Aide	079.368-026
355.878-038	Orderly (medical ser.)	Child and Adult Care	Attendant, Physical Therapy	355.878-014
303.138-010	Housekeeper, home (dom. ser.) I	Supervisory Work	Nurse, private duty	075.378-022
306.878-010	Homemaker (dom. ser.)	Misc. Personal Service		
321.138-010	Housekeeper (hotel & rest. medical ser.)	Supervisory Work		

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 3: HOUSEKEEPING, ATTENDANT WORK AND FOOD SERVING

OCCUPATIONAL PREPARATION, USOE CODE 09.02

The courses or units of instruction emphasizing the acquisition of competencies needed for getting and holding a job and/or preparing for advancement in an occupational area using home economics knowledge and skills. Instructional content is selected from home economics subject areas to meet the unique requirements in field, laboratory, and work experience. Occupations include those which provide (1) services to families in the home and similar services to others in group situations; (2) assistance to professional home economists and professionals in fields related to home economics in industries, agencies, and organizations; and (3) other services and/or assistance directly related to one or more home economics subject-matter areas.

FOOD MANAGEMENT, PRODUCTION, AND SERVICES, USOE CODE 09.0203

Preparation for various kinds of employment related to institutional and commercial food services. Employment may include workers and supervisors for the elderly, and school lunch programs.

INSTITUTIONAL AND HOME MANAGEMENT AND SUPPORTING SERVICES, USOE CODE 09.0205

Preparation for various kinds of employment related to institutional and home management services. These include institutional housekeeping, executive housekeeping, and hotel and motel housekeeping.

WAITER/WAITRESS, USOE CODE 17.2904

Specialized classroom and practical work experiences in table preparation, food handling, and serving. Instruction is provided in personal cleanliness and appearance, sanitary handling of food and equipment, setting a table, receiving and seating guests, taking orders and interpreting the menu, carrying the tray and dishes, placing orders in the kitchen, serving procedures, making out checks, accepting money and making change for checks, and proper relations with fellow employees and customers.

Remarks

This course caters to special education students and motivated girls of limited general ability. A diversified background insures employment in the hotel-motel industry. Cooperative training will be given. Food service program is conducted in limited facilities in the cafeteria and faculty dining room. Expansion may occur later. The length of the course depends on individual ability. It may be clustered with Course No. 2.

Occupational Goals

Housekeeping, Attendant Work and Food Serving

Vocational Entrant (No prevocational)		
DOT Occupational Title		Worker Trait Group
302.887-014	Laundress (dom. ser.)	Handling
305.281-010	Cook (dom. ser.)	Cooking and related work
303.138-010	Housekeeper, home (dom. ser.) I	Supervisory work (Ser. & Rel.)
306.878-010	Homemaker (dom. ser.)	Mis. Per. Ser. (Food Ser. & Rel.)
321.138-010	Housekeeper (hotel & rest.; medical ser.)	Supervisory work (Ser. & Rel.)
321.138-014	Inspectress (hotel & rest.)	Supervisory work (Ser. & Rel.)
323.887-014	Maid (any ind.) II	Handling
323.887-018	Maid, hospital (medical ser.)	Handling
311.878-010	Bus boy (hotel & rest.)	Misc. Per. (Food Ser. & Rel.)
311.878-014	Car hop (hotel & rest.)	Misc. Per. (Food Ser. & Rel.)
311.878-022	Counterman, cafeteria (hotel & rest.)	Misc. Per. (Food Ser. & Rel.)
311.878-026	Counterman, lunchroom or coffee shop (hotel & rest.)	Misc. Per. (Food Ser. & Rel.)
311.878-034	Floor girl, cafeteria (hotel & rest.)	Misc. Per. (Food Ser. & Rel.)
311.878-046	Waiter, buffet (hotel & rest.)	Misc. Per. (Food Ser. & Rel.)
311.878-066	Waiter, room service (hotel & rest.)	Misc. Per. (Food Ser. & Rel.)
310.868-010	Hostess, restaurant or coffee shop	Accommodating work

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 4: DRAFTING AND DESIGN

DRAFTING, USOE CODE 17.13

Organized specialized learning experiences which emphasize theory, use of the drafting room and laboratory and shop work as each relates to gathering and translating of data or specifications, including the aspects of planning, preparing, and interpreting mechanical, architectural, structural, electrical/electronic, topographical, and other drawings and sketches. Instruction is designed to provide experiences in drawing; the use of reproduction materials, equipment, and processes; the preparation of reports and data sheets for writing specifications; the development of plan and process charts and drawings; and the development of models. Instruction emphasizes the development of skills and knowledge essential for employment in ancillary capacities.

COMMERCIAL ART OCCUPATIONS, USOE CODE 17.07

Organized specialized learning experiences which include theory, laboratory, and shop work as they related to the design and execution of layouts and making illustrations for advertising, display and instructional manuals. Instruction includes advertising theory and preparation of copy, lettering, poster design, fashion illustration, silk screen, air brush and touch-up, inks and color dynamics, package and product design, drawings for line and halftone reproduction, and other display devices and exhibits.

INTERIOR DECORATING, USOE CODE 17.0701

Organized learning experiences concerned with the application of art principles to the design, selection, and arrangement of materials and objects in interiors or residential and commercial structures, and in ships and aircraft to achieve aesthetic effects or as a media for conveying ideas.

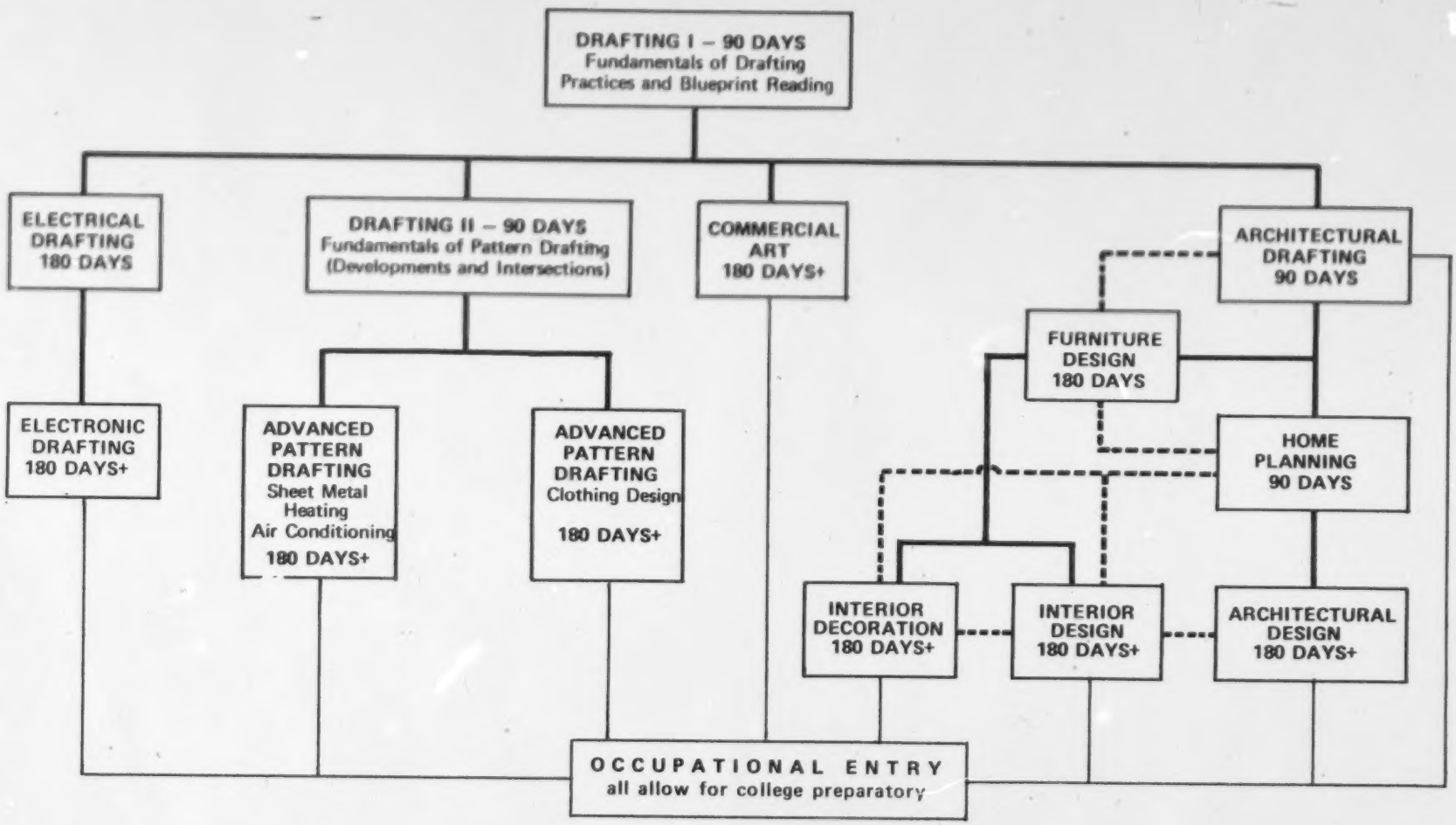
WINDOW DISPLAY, USOE CODE 17.0702

Organized learning experiences concerned with the application of art principles to the design, selection, layout and arrangement of materials and objects for the purpose of attracting attention of customers.

Remarks

Figure 2 outlines this cluster course taught by a team of individuals, some guest instructors may come for some units. Sources such as the Rhode Island School of Design will be used for guest instructors. Individualized, instruction will be offered. A great variety of students will be found in this course, included some who may go on to college. A number of students will use these skills in other majors in the occupational conglomerate. This course is also clustered with graphics, Course No. 5 distributive education, and home economics.

FIGURE 2



A student may start at 9th grade and up.
Exceptions will be made for 8th graders showing talent.
Individualization allows flexibility for particular students in regard to time.
Time duration based on one period per day.

DRAFTING AND DESIGN CURRICULUM

Engelhardt and Engelhardt, Inc. -- Educational Consultants

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Vocational Entrant		Prevocational
DOT Occupational Title	Worker Trait Group	
142.051-010 Display designer, outside (profess. & kin.)	Decor. & Art Work	Product Design 17.0703 e.g.: 142.081-014 Cloth designer (profess. & kin.) 142.081-034 Designer, novelties (fabric. plastics prod.) 142.081-046 Fixture designer (furn.) 142.081-054 Furniture designer (furn.) 142.081-078 Industrial designer (profess. & kin.) 142.081-098 Ornamental-metal-work designer (struct. & ornam. metalwork) 142.081-102 Package designer (profess. & kin.) 142.081-106 Pottery-decoration designer (pottery & porc.) 142.081-146 Toy designer (toys & games) Interior Decorating 17.0701 e.g.: 142.051-054 Interior designer and decorator Drafting 17.13 e.g.: 005.281-014 Draftsman, Civil 005.281-018 Draftsman, Structural 007.281-014 Draftsman, Mechanical 007.281-026 Layout Man & Checker 017.281-058 Draftsman, Map 019.281-010 Draftsman, Landscape
298.381-010 Decorator (any ind.) I	Artis. Restor., Decor., & Rel.	
001.281-010 Draftsman, Architectural	Drafting and Related Work	
003.281-010 Draftsman, Electrical	Drafting and Related Work	
003.281-014 Draftsman, Electronic	Drafting and Related Work	
003.281-022 Estimator and Draftsman	Drafting and Related Work	
142.081-118 Sign Designer	Art Work	
970.381-026 Layout Man	Crafts and Related Work	
970.381-046 Painter	Crafts and Related Work	
142.081-082 Information specialist, visual	Art Work	

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 5: OCCUPATIONAL GRAPHIC ARTS

GRAPHIC ARTS OCCUPATIONS, USOE CODE 17.19

Organized, specialized learning experiences which include theory, laboratory, and shopwork as they relate to layout, composition, presswork, connected with lithography, and other graphic arts related to the printing industry. Emphasis is on typographical layouts and design, camera and plate work, offset makeup and operation, and ink and color preparation.

LITHOGRAPHY, PHOTOGRAPHY, AND PLATEMAKING, USOE CODE 17.1903

Organized learning experiences concerned with lithography, lithographic photography, stripping, related platemaking processes, and reproduction.

COMMERCIAL ART OCCUPATIONS, USOE CODE 17.07

Organized specialized learning experiences which include theory, laboratory, and shopwork as they relate to the design and execution of layouts and making illustrations for advertising, display, and instructional manuals. Instruction includes advertising theory and preparation of copy, lettering, poster design, fashion illustration, silk screen, air brush and touch-up, inks and color dynamics, package and product design, drawings for line and halftone reproduction, and other display devices and exhibits.

INTERIOR DECORATING, USOE CODE 17.0701

Organized learning experiences concerned with the application of art principles to the design, selection, and arrangement of materials and objects in interiors or residential and commercial structures, and in ships and aircraft to achieve aesthetic effects or as a media for conveying ideas.

Remarks

This course is given in close coordination with the drafting and design curriculum. It trains individuals for small shop work or art work in any size business. The course is given as part of the occupational education conglomerate and the art department. Interior decorating students would also benefit from taking units in upholstery and entreprenuership. Air brush work will occur in art room. Advanced instruction in proprietary and institutions of higher learning is needed for some skills; aptitudes can be tested in activities prior to enrolling in such schools.

Occupational Goals
Occupational Graphic Arts

Vocational Entrant			Prevocational	
DOT Occupational Title		Worker Trait Group		
141.081-014	Art layout man (print & pub.)	Art Work	141.031-014	Director, Art (profess. & kin.)
141.081-034	Cover designer (profess. & kin.)	Art Work		
142.081-022	Commercial designer (profess. & kin.)	Art Work	141.051-010	Color expert (profess. & kin.)
142.081-118	Sign designer (signs)	Art Work		
144.081-014	Cartoonist (print & pub.)	Art Work	141.081-014	Art layout man (print & pub.)
970.281-010	Airbrush artist (profess. & kin.)	Crafts & Rel. Work		
970.381-026	Layout man (signs) II	Crafts & Rel. Work	141.081-034	Cover designer (profess. & kin.)
970.381-046	Painter, sign (any ind.)	Crafts & Rel. Work		
142.051-014	Interior designer and decorator (profess. & kin.)	Decor. & Art Work	142.081-022	Commercial designer (profess. & kin.)
142.081-082	Information specialist, visual	Art Work	142.081-126	Stage-scenery designer (amus. & rec.)
142.081-126	Stage-scenery designer (amus. & rec.)	Art Work		
979.081-010	Printmaker (profess. & kin.)	Art Work	149.031-010	Director, art (motion pic.)
972.281-010	Sketch maker (print & pub.)	Crafts & Rel. Work		
972.382-010	Photographer, lithographic (print. & pub.)	Motion Pic. Project & Rel.	149.031-014	Supervisor, scenic arts (motion pic.)
972.382-014	Photolithographer apprentice (print. & pub.)	Motion Pic. Project & Rel.	142.061-010	Set decorator (motion pic.)
651.782-034	Lithographic-proofer apprentice (print. & pub.)	Operating-controlling	142.081-082	Information specialist, visual (gov. ser.)
651.782-038	Offset-duplicating machine operator (print. & pub.)	Operating-controlling	142.081-122	Sketcher (motion pic.)
651.782-046	Offset-press-man apprentice (print. & pub.)	Operating-controlling	142.051-014	Interior designer and decorator (profess. & kin.)
Unlisted	Stripper man(lithography)	Art Work	142.081-126	Stage-Scenery Designer
651.885-014	Offset-press operator (print. & pub.) II	Tending		

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 6: CABINETMAKING, FURNITURE REPAIR AND FABRICATION, UPHOLSTERY

WOODWORKING, USOE CODE 17.36

Classroom and shop experience concerned with woodworking occupations other than construction carpentry. Instruction emphasizes laying out and shaping stock; assembling complete wooden articles or subassemblies; marking, binding, sawing,carving, and sanding wood products; and repairing wooden articles. Also emphasized are various hand and power tools and their uses.

MILLWORK AND CABINETMAKING , USOE CODE 17.3601

Specialized class and practical work experiences concerned with mass production of products such as window frames, moldings, trim, and panels; and with making such products as furniture, store fixtures, kitchen cabinets, and office equipment. Instruction includes training in cutting, shaping, and assembling parts by means of handtools and woodworking machines; refinishing furniture; installing hardware, e.g., hinges, catches, and drawer pulls; planning layouts; blueprint reading; drafting; and features of various kinds of woods.

UPHOLSTERING, USOE CODE 17.35

Classroom and shop experiences concerned with all aspects of upholstering, including furniture, automobile seats, caskets, mattresses, and bedsprings. Instruction includes history and styles of furniture; installing, repairing, arranging and securing springs, filler, padding, and covering material;patternmaking,cutting, sewing, and trimming; outside coverings; cushion filling; styling and designing; tufting and buttoning; and wood refinishing.

HOME FURNISHINGS, USOE CODE 04.10

Organized subject matter and learning experiences related to various sales and sales-supporting tasks performed by distributive employees and management personnel in retail and wholesale establishments engaged primarily in selling home furnishings such as furniture, draperies, and specialized lines of home items.

HOME FURNISHINGS, EQUIPMENT, AND SERVICES, USOE CODE 09.0204

Preparation for various kinds of employment related to home furnishings and/or equipment. It includes assisting purchasers in the selection of suitable home furnishings and/or equipment, assisting interior decorators, and custom-making of curtains, draperies, slip covers, and similar items. (Included as 16.0505 INTERIOR DECORATOR ASSISTANT and 16.0506 HOME EQUIPMENT DEMONSTRATOR under TECHNICAL EDUCATION - prevocational.)

CUSTODIAL SERVICES, USOE CODE 17.11

Classroom and shop experiences concerned with all phases of the care and cleaning of buildings, fixtures, and furnishings. This course will give experience in wood and possibly plastics. General repair skills in these materials will be learned.

INSURANCE, USOE CODE 04.13

Insurance adjusters or estimators for moving companies are often furniture repair craftsman. (Such people are in short supply.)

Remarks

This course leads to a broad cluster of saleable skills in sales and craftsman lines. Entrepreneurship is an opportunity. Guest instructors may be invited since some skills such as furniture refinishing are in short supply. The course develops a standard of excellence for repair work. Wood workers without the aptitude for patience and attention to detail may switch to building and grounds maintenance. Same special education students will gain saleable skills in craft work. This course may be clustered with drafting and design, home economics, building and grounds, automotive services, and entreprenership.

Occupational Goals

Cabinetmaking, Furniture Repair and Fabrication, Upholstery

Vocational Entrant (No prevocational)

DOT Occupational Title	Worker Trait Group
780.884-010 Automobile-seat-cover, Installer (auto.ser.)	Manipulating (training given in conjunction with auto services)
780.381-022 Furniture-Upholsterer apprentice	Crafts and Related Work
780.587-010 Sorter, Upholstery Parts	Sort., Inspect, etc.
780.884-014 Back Padder	Manipulating
780.884-094 Panel Maker	Manipulating
780.887-030 Filler	Handling
780.887-066 Upholsterer helper (any ind.)	Handling
780.887-070 Upholstery cleaner (furn.)	Handling
660.280-014 Cabinetmaker apprentice	Set-up Mach. Oper.
761.884-054 Sander, portable machine	Manipulating
762.884-010 Assembler (box)	Manipulating
762.884-030 Cabinet assembler	Manipulating
762.884-038 Door assembler	Manipulating
806.884-030 Boat outfitter	Manipulating
754.381-018 Patternmaker, plastics	Crafts and Related Work
806.884-078 Mobile-home installer	Manipulating
769.884-022 Repairman	Crafts and Related Work
241.168-010 Claim adjuster (insurance)	Investigat., Protect, & Rel. Work
382.884-010 Janitor	Manipulating
299.488-010 Drapery & upholstery estimator	Comput. and Rel. Record
299.686-014 Furniture inspector	Sort., Inspect. and Rel. Work
162.158-030 Buyer, assistant (ret. tr.)	Purchase and Sales Work
256.258-010 Salesman, upholstery & furn. repair	Demonstration and Sales Work
162.158-114 Second-hand furniture dealer (ret.tr.; whole. tr.)	Purchase and Sales Work
780.381-026 Slipcover cutter	Crafts and Related Work
787.782-306 Slipcover seamstress	Operating-controlling

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 7: ELECTRICAL SKILLS AND ELECTRONICS

MOTOR REPAIRMAN, USOE CODE 17.1403
Specialized classroom and practical experiences concerned with the assembly, installation, testing, maintenance, and repair of electric motors, generators, transformers, and related equipment.

ELECTRICAL APPLIANCES, USOE CODE 17.0201
Learning experiences specifically concerned with the repair, installation, and servicing of electrical appliances.

BUSINESS MACHINE MAINTENANCE, USOE CODE 17.06
(See Course No. 8; instruction in electricity and electronics given here.)

ELECTRONICS OCCUPATIONS, USOE CODE 17.15
Organized specialized learning experiences which include theory, laboratory, and shop work as each is related to planning, producing, testing, assembling, installing, and maintaining electronic communications equipment such as radio, radar, and television; industrial electronic equipment, including digital computers; new electronic systems, components, and equipment; and control devices. Emphasis is on solid-state devices and components, electron tube characteristics, low frequency amplifiers, LC and RC oscillators, transistors, and amplitude and frequency modulation. Instruction is designed to develop knowledge, understanding, and skills essential for employment in communications, industrial electronics, radio/television, and other electronics occupations.

COMMUNICATIONS, USOE CODE 17.1501
Specialized classroom and practical experiences concerned with the assembly, installation, operation, maintenance, and repair of communications equipment and systems of all types, e.g. industrial and entertainment sound systems, data processing, telephone dial systems, two-way radio, central circuits, hearing aids, and high fidelity receiving sets.

INDUSTRIAL ELECTRONICS, USOE CODE 17.1502
Specialized classroom, laboratory, and practical experiences concerned with the basic elements of vacuum tubes and circuitry; using and servicing testing equipment, and troubleshooting circuits; study of and experience in repairing photo-electric controls, timers, selector switches, counters, recorders, and transducers; and the study of the characteristics and intricacies of equipment and components used in industry and research centers. More advanced instruction includes study, analysis, and repair of magnetic amplifiers, motors, motor controls, electronic heating, saturable reactors, servomechanisms, pulse circuits, computers, and test instruments--including basic principles and servicing procedures. Field trips are taken frequently.

RADIO/TELEVISION, USOE CODE 17.1503
Specialized theory and practice which are concerned with the construction, maintenance, and repair of radios and television sets. Training also prepares students to diagnose troubles and make repairs on other electronic products such as high-fidelity sound equipment, phonographs, and tape recorders.

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 7: ELECTRICAL SKILLS AND ELECTRONICS (Continued)

Remarks

This course is linked to Courses No. 8 and No. 9. The electrical shop can be used by any course dealing with electric motors or generators. Construction electricity (as often given in vocational agriculture courses) will be offered in expanded form in Building and Grounds Maintenance. Electronics and electricity are distinct courses serving a broad range of talent. Eventually two teachers might be employed for these courses. In the event of a temporary overload in electronics technicians, the electronics course can emphasize exploratory and prevocational courses. The course will interface with physics. This facility can be easily converted to electronic and electric business machine repair.

Occupational Goals
Electrical Skills and Electronics

Vocational Entrant		Prevocational
DOT Occupational Title	Worker Trait Group	Program or DOT Title
721.281-022 Electric motor repairman	Crafts and Related Work	Various associate degree programs in electronics such as:
721.281-042 Tester, motors and controls	Crafts and Related Work	Electronic Technology 16.0108
721.887-010 Cleaner and repairer	Handling	003.181-014 Electronic Technician
724.384-010 Armature tester	Inspect and Stock Clerk	Instrumentation Technology 16.0112
726.781-010 Electronics assembler	Precision Work	003.281-026 Instrumentation Technician
729.381-030 Tester	Crafts and Related Work	Also advanced on-the-job training or regional school programs:
633.281-034 Office-machine-serviceman apprentice (any ind.)	Crafts and Related Work	821.381-054 Power-transformer Repairman (light, heat & power)
822.281-010 Automatic-equipment technician	Crafts and Related Work	820.781-010 Dynamo man (light, heat & power)
822.281-014 Central office repairman	Crafts and Related Work	719.281-010 Hearing aid repairman (any ind.)
822.281-030 Electrician, office		722.281-018 Instrument shopman (tel. & tel.)
822.281-034 Equipment inspector	Crafts and Related Work	729.381-034 Wireman, cable (elec. equip.)
822.381-022 Equipment installer	Crafts and Related Work	822.281-018 Combination man (tel. & tel.)
829.281-042 Sound technician	Crafts and Related Work	822.281-022 Communication eng. (light, heat & power)
722.381-010 Assembler	Crafts and Related Work	822.281-026 Communication man (any ind.)
729.281-010 Audio-video repairman (including High Fidelity Repair)	Crafts and Related Work	822.281-058 Station repairman (tel. & tel.)
729.381-022 Production repairman	Crafts and Related Work	
720.281-010 Radio repairman	Crafts and Related Work	
720.281-018 Television service and repairman	Crafts and Related Work	
723.381-018 Vacuum-cleaner repairman	Crafts and Related Work	
827.281-014 Electrical appliance serviceman	Crafts and Related Work	
827.887-010 Electrical appliance serviceman helper	Handling	
827.884-030 Electrical appliance set-up man	Manipulating	

Occupational Goals (Continued)

Electrical Skills and Electronics

Vocational Entrant		Prevocational
DOT Occupational Title	Worker Trait Group	Program or DOT Title
		822.281-066 Testing-and-regulating tech. (tel. & tel.)
		822.381-018 Central-office installer (tel. & tel.)
		822.381-046 Protective-signal repairman (bus. ser.)
		822.381-050 Station installer (tel. & tel.)
		822.381-058 Telephone inspector (tel. & tel.)
		822.381-066 Transmission man (tel. & tel.)

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 8: SMALL MOTOR, APPLIANCE, MACHINE AND INSTRUMENT REPAIR

APPLIANCE REPAIR, USOE CODE 17.02

Classroom and shop experiences concerned with the theory of electrical circuitry, simple gearing, linkages. and lubrication in the operation, maintenance, and repair of components including relays, time switches, pumps, and agitators used in appliances such as washers, dryers, vacuum cleaners, toasters, water heaters, and stoves. Related training is provided in the use of familiar tools, test equipment, and service manuals, and in making cash estimates for repairs.

GAS APPLIANCES (Cooperative or Prevocational Opportunity), USOE CODE 17.0202

Learning experiences specifically concerned with the repair, installation, and servicing of gas appliances.

HOME FURNISHINGS, USOE CODE 04.10

Organized subject matter and learning experiences related to various sales and sales-supporting tasks performed by distributive employees and management personnel in retail and wholesale establishments engaged primarily in selling home furnishings such as furniture, household appliances, floor coverings, draperies, and specialized lines of home items.

BUSINESS MACHINE MAINTENANCE, USOE CODE 17.06

Classroom and shop experiences concerned with maintaining and repairing a variety of office machines such as typewriters, dictation machines, and calculators; data processing equipment used for recording and processing data; and duplicating and mailing machines. Instruction includes diagnostic techniques; understanding of mechanical principles such as those involved in gears, cams, levers and eccentrics; nomenclature; uses and care of special hand and power tools; soldering; mechanical drawing; principles of electricity and electronics; uses of testing devices; and business procedures and customer relations.

HEATING, USOE CODE 17.0102

Learning experiences specifically concerned with the installation, operation, testing, and troubleshooting of various types of heating equipment, including the controls needed for operation.

ELECTRICAL APPLIANCES, USOE CODE 17.0201

Learning experiences specifically concerned with the repair, installation, and servicing of electrical appliances.

INSTRUMENT MAINTENANCE AND REPAIR, USOE CODE 17.21

Classroom, laboratory, and practical experiences concerned with maintaining and repairing meters, instruments, watches and clocks, and other physical measuring devices. Instruction includes experiences in diagnosing malfunctions; disassembling, repairing and/or replacing faulty parts; cleaning, assembling and adjusting and using special bench and hand-tools, meters and standards.

INSTRUMENTS (OTHER THAN WATCHES AND CLOCKS), USOE CODE 17.2101

Classroom, laboratory, and practical experiences concerned with maintaining and repairing various types of meters and other types of measuring and control devices, e.g., heating and air-conditioning controls; dial pressure gages; scales and balances; electrical controlling, measuring, and recording devices; optical instruments; and navigational and aeronautical instruments. Instruction includes experiences in diagnosing malfunctions; disassembling, repairing and/or repiacing faulty parts; cleaning, assembling, and adjusting; and using special bench and handtools, meters, and standards.

Remarks

Students in this course will also receive instruction in internal combustion engines as a cluster of related skills. Aspects of grounds maintenance mechanics will involve these students. Aside from occupations, the following opportunities may involve these students in franchized service agencies entrepreneurship rather quickly:

Sewing Machine Repair and Sales
Automatic Overhead Garage Door Installation and Repair
Typewriter Repair
Data-Processing Machine Repair (Prevocational)
Repair mechanic for tool rental or retail establishments selling small engine machines such as lawn mowers, snow blowers, and household electric motors
Salesman, entrepreneur in retail and service area
Outboard motor repair
Small generator repair
Motorcycle and small vehicle repair
Custodial occupations

Occupational Goals

Small Motor, Appliance, Machine and Instruction Repair

Vocational Entrant			Prevocational
DOT Occupational Title		Worker Trait Group	
710.281-018	Electromechanical technician	Crafts and Related Work	822.281-010 Automatic Equipment Technician
710.281-050	Instrument inspector	Crafts and Related Work	
710.281-058	Instrument repairman	Crafts and Related Work	722.381-014 Instrument Inspector
714.281-014	Camera repairman	Crafts and Related Work	Data-Processing Machine Repair (unlisted)
729.281-042	Instrument Maker	Crafts and Related Work	
278.358-...	Salesman	Demonstration and Sales	
862.887-034	Oil Burner Installation and serviceman's helper (Leading to 862.281-018)	Handling Crafts and Related Work	
827.281-022	Household appliance repairman	Crafts and Related Work	
827.381-018	Household-appliance installation man	Crafts and Related Work	
723.381-018	Vacuum cleaner repairman	Crafts and Related Work	
827.281-010	Coffeemaker serviceman	Crafts and Related Work	
723.884-010	Appliance repairman	Manipulating	
633.281-034	Office machine serviceman apprentice	Crafts and Related Work	
715.381-026	Coordinate-Measuring machine technician (Including laboratory instrument repair - pH meter, etc.)	Crafts and Related Work	

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 9: BUILDING AND GROUNDS MAINTENANCE

AGRICULTURAL CHEMICALS (MODIFIED), USOE CODE 01.0201
The study of a variety of chemicals, associated with the maintenance of turf and ornamental plantings of commercial or governmental institutions. Usually included for study are various types of chemicals used to prevent, control, or cure plant diseases, to control animal pests and weed growth.

AGRICULTURAL MECHANICS, USOE CODE 01.03
A combination of subject matter and activities designed to develop abilities necessary for assisting with and/or performing the common and important operations or processes concerned with the selection, operation, maintenance, and use of agricultural power, agricultural machinery and equipment, structures and utilities, soil and water management, and agricultural mechanics shop, including kindred sales and services.

AGRICULTURAL POWER AND MACHINERY, USOE CODE 01.0301
A combination of subject matter and experiences designed to develop in pupils the abilities to (1) recognize and identify the fundamental principles of selection, operation, service maintenance, repair, and safety in agricultural (suburban) power--engines, electricity, and hydraulics and (2) plan, install, service, assemble, adjust, operate, and repair garden and grounds keeping machinery.

AGRICULTURAL MECHANICS SKILLS, USOE CODE 01.0305
Planned learning experiences designed to develop skills, abilities, and judgments necessary to select, use, and maintain hand and power tools, arc and acetylene welders, and to plan and establish home farm shops.

AGRICULTURAL CONSTRUCTION AND MAINTENANCE, USOE CODE 01.0306
A combination of subject matter and experiences designed to develop skills and abilities necessary in the planning, layout, fabrication, and maintenance of farm and other agricultural equipment, especially small, custom-built devices.

AGRICULTURAL ELECTRIFICATION, USOE CODE 01.0307
A combination of subject matter and experiences designed to provide opportunities for pupils to gain the knowledge and understanding necessary to make effective use of electricity and electrical equipment on farms, ranches, and other agricultural establishments. Included for study are the principles of electricity, maintenance and operation of equipment, and safety factors related thereto.

ORNAMENTAL HORTICULTURE (PRODUCTION, PROCESSING, MARKETING, AND SERVICES), USOE CODE 01.05
Organized subject matter and practical experiences concerned with the culture of plants used principally for ornamental or esthetic purposes. Instruction emphasizes knowledge and understanding important to establishing, maintaining, and managing ornamental horticulture enterprises.

ARBORICULTURE, USOE CODE 01.0501
Organized subject matter and practical experiences concerned with the principles and practices involved in the culture and maintenance of woody plants used for decoration and shade purpose.

LANDSCAPING, USOE CODE 01.0504
Organized subject matter and practical experiences which are concerned with the principles and practices involved in locating, planting, and maintaining turf, plants, shrubs, or devices for the beautification of home grounds and other areas of human habitation and recreation.

NURSERY OPERATION AND MANAGEMENT, USOE CODE 01.0505
Organized subject matter and practical experiences which are concerned with the production of turf, plants, and/or trees for the purpose of transplanting or propagating them.

TURF MANAGEMENT, USOE CODE 01.0506
Organized subject matter and practical experiences which are concerned with the principles and practices involved in establishing, managing and maintaining grassed areas for ornamental and/or recreational.

HARDWARE, BUILDING MATERIALS, FARM AND GARDEN SUPPLIES AND EQUIPMENT, USOE CODE 04.09
Organized subject matter and learning experiences related to various sales and sales-supporting tasks performed by distributive employees and management personnel in establishments engaged primarily in selling one or more of the following product lines at retail, at wholesale, or to contractors: hardware, paint, wallpaper, lumber, building materials, supplies and equipment for home construction, or farm and garden supplies and equipment purposes.

CONSTRUCTION AND MAINTENANCE TRADES, USOE CODE 17.10
Classroom and shop experiences concerned with the erection, installation, maintenance, and repair of buildings, highways, airports, missile sites, earth, and other structures using assorted materials such as metal, wood, stone, brick, glass, concrete, or composition substances. Instruction is provided in a variety of activities such as cost estimating; cutting, fitting, fastening, and finishing various materials; the uses of a variety of hand and power tools; and blueprint reading and following technical specifications. Knowledge concerning the physical properties of materials also is emphasized.

CUSTODIAL SERVICES, USOE CODE 17.11
Classroom and shop experiences concerned with all phases of the care and cleaning of buildings, fixtures, and furnishings, including all types of building interiors such as linoleum, plastic, terrazzo, tile and wood floors; rugs; and plastic, wood panel, paint and synthetic wall coverings.

METALWORKING, USOE CODE 17.23
Organized specialized learning experiences which include theory, laboratory, and shop work as they relate to the planning, manufacturing, assembling, testing, and repairing of parts, mechanisms, machines, and structures in which

METALWORKING, USOE CODE 17.23, - (Continued)
materials are cast, formed, shaped, molded, heat treated, cut, twisted, bent, pressed, stamped, fused, marked, or otherwise worked upon. Instruction emphasizes knowledge, skills, and understandings which lead to preparation for various types of skilled and semiskilled employment as well as helper-type jobs.

METAL TRADES, COMBINED, USOE CODE 17.2304
Specialized learning experiences designed to prepare an all-round metalworker capable of fabricating and assembling a variety of products in many industries. Instruction includes layout; sequence of operations; setting up and operating fabricating machines; positioning, aligning, fitting, and welding parts; and designing and construction templates and fixtures.

SHEET METAL, MODIFIED, USOE CODE 17.2305
Specialized classroom and shop experiences concerned with the layout, fabrication, repair and maintenance of items made of steel, copper, stainless steel, and aluminum, such as ventilating, air-conditioning and heating ducts, kitchen equipment, signs, furniture, and skylights. Instruction includes the use of handtools and machines, such as the cornice brake, forming rolls, and squaring shears; drafting; and blueprint reading.

ELECTRIC WELDING, USOE CODE 17.230602
Specialized classroom and shop experiences concerned with the use of arc and other electric welding equipment to weld metal parts as specified by drawings, blueprints, or written specifications. Instruction also is given in inert-gas shielded arc welding with manually operated torch and semi-automatic gun.

COMBINATION WELDING, USOE CODE 17.230603
Specialized classroom and shop experiences concerned with the use of both gas welding and any combination of arc welding processes to weld metal parts, according to diagrams, blueprints, or written specifications.

POSSIBLE EXPANSION: BRAZING AND SOLDERING OPERATIONS, USOE CODE 17.230604
Specialized classroom and shop experiences concerned with setting up and operating induction heating equipment to braze (bond) metal components, including instruction in the use of blueprints and electric or gas-fired ovens and equipment.

SMALL ENGINE REPAIR, INTERNAL COMBUSTION, USOE CODE 17.31
Classroom and shop experiences concerned with maintaining and repairing a variety of small engines used on portable power equipment, e.g., lawnmowers, outboard motors, chain saws, and rotary tillers. Instruction includes principles of internal combustion engine operation, reading technical manuals, and customer relations.

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 9: BUILDING AND GROUNDS MAINTENANCE (Continued)

AGRICULTURAL SUPPLIES/SERVICES, OTHER; USOE CODE 01.0299
Include here other subject matter and experiences emphasized in agricultural supplies/services which are not listed above: turf and lawn management, shade tree maintenance.

Remarks

This course is an expansion of the former Course No. 7. Up until this time, no special space was allotted this program. The course will also bring a metals experience to the Milford program, which was a serious deficiency for exploratory experiences.

Welding occurs in the auto-shop, as well as in the building and grounds shop. The course uses the auto-shop for small engine and some machinery repair. Broken parts can be repaired in the metal working area. Some sheet metal activity may occur in appliance repair and air-conditioning refrigeration. Electrical courses will practice some electrical installation work in this shop. Electrical aspects of machinery may be studied in auto-shop and electrical shop. Carpentry skills will be gained in the cabinetmaking shop as well as in this shop where construction work will be practiced. Distributive education is also part of this cluster; in fact, almost all courses relate to this course.

Not all courses will be given in one year, but aspects of these skills will be practiced on projects and through cooperative training experiences. Apprenticeship experience may be necessary although not indicated below in some circumstance.

The regional school may offer more technical courses in stationary engineering and physical plant maintenance for transfer students.

Occupational Goals

Building and Grounds Maintenance

Vocational Entrant			Prevocational	
DOT Occupational Title		Worker Trait Group		
277.358-030	Salesperson, lawn and garden equipment and supplies	Demon. and Sales Work	407.137-010	Greenskeeper (any ind.) I
187.168-134	Manager, service department	Manager Work	407.138-010	Superintendent, Greens (amuse. & rec.)
899.381-010	Maintenance man, building	Crafts and Related Work	409.181-014	Tree surgeon (agric.)
869.381-014	House repairman (const.)	Crafts and Related Work	409.884-014	Tree-surgeon helper (agric.)I
869.381-018	Repairman (light, heat, & power)	Crafts and Related Work	406.168-010	Nurseryman (agric.)
860.281-014	Carpenter, maintenance (any ind.)	Crafts and Related Work	Courses:	
382.884-010	Janitor	Manipulating	17.2307	Tool and die maker
389.887-018	Floor waxer	Handling	17.2308	Die sinking
389.887-022	Sexton	Handling	17.32	Stationary energy sources occupations
389.887-030	Wall washer	Handling	17.10..	Construction & maintenance trades (specialized)
620.281-094	Tractor mechanic	Crafts and Related Work		
625.281-034	Gasoline engine repairman	Crafts and Related Work		
625.281-038	Outboard motor tester	Crafts and Related Work		
625.281-042	Power saw mechanic	Crafts and Related Work		
407.181-010	Landscape gardener	Crop, Animal Farm and Related Work		
407.884-010	Grounds keeper	Manipulating		
406.168-010	Nurseryman	Management Work		
406.887-022	Groundman	Handling		
406.887-030	Nursery worker	Handling		
404.884-014	Tree pruner	Manipulating		
866.381-014	Roofer apprentice	Crafts and Related Work		
809.381-010	Fabricator-assembler, metal products (any ind.)	Crafts and Related Work		
812.884-022	Welder, repair (welding)	Crafts and Related Work		
810.782-018	Welder, seam (welding) I	Crafts and Related Work		
804.281-014	Sheet-metal-worker apprentice (any ind.)	Crafts and Related Work		
617.380-010	Brake operator (any ind.) I	Set-up or Mach. Oper.		
810.884-018	Welder, arc (welding)	Manipulating		

Occupational Goals (Continued)

Building and Grounds Maintenance

Vocational Entrant			Prevocational
DOT Occupational Title		Worker Trait Group	
812.884-010	Welder apprentice, combination (welding)	Manipulating	
810.782-022	Welder, spot (welding) I	Operating and Controlling	
814.884-014	Brazer, repair and salvage (welding)	Manipulating	
814.884-018	Brazer-assembler (welding)	Manipulating	
814.884-026	Solderer, production line (welding)	Manipulating	
814.884-030	Solderer, dipper (welding)	Manipulating	
617.782-030	Forming-roll operator (any ind.)	Operating and Controlling	
619.885-050	Forming-roll operator	Tending	

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 10: AUTOMOTIVE SERVICES AND SMALL ENGINES

AUTOMOTIVE SERVICES, USOE CODE 17.03

Classroom and shop experiences which include training in all phases of automotive maintenance repair work on all types of automotive vehicles. Included is training in the use of technical manuals and variety of hand and power tools. Instruction and practice are provided in diagnosis of malfunctions, disassembly of units, parts inspection, and repair or replacement of parts involving engine overhaul and repair, ignition systems, carburetion, brakes, front end alignment and the installation of a variety of accessories such as radios, heaters, mirrors, and windshield wipers.

MECHANICS, USOE CODE 17.0302

Learning experiences concerned with the components of the vehicle, including engine, steering, brakes, and electrical systems. Included is training in the use of diagnostic and testing equipment and tools used in the repair process.

SPECIALIZATION, OTHER; USOE CODE 17.0303

Learning experiences which emphasize more detailed training in the adjustment and repair of individual components and systems of the automobile: upholstery, front end, carburetor, electrical, brake, and exhaust systems to achieve greater proficiency in the servicing of selected components.

AGRICULTURE MECHANICS, USOE CODE 01.03

A combination of subject matter and activities designed to develop abilities necessary for assisting with and/or performing the common and important operations or processes concerned with the selection, operation, maintenance of lawn and garden equipment, in a suburban agricultural mechanics shop, including kindred sales and services.

SMALL ENGINE REPAIR, INTERNAL COMBUSTION, USOE CODE 17.31

Classroom and shop experiences concerned with maintaining and repairing a variety of small engines used on portable power equipment, e.g., lawn mowers, outboard motors, chain saws, and rotary tillers. Instruction includes principles of internal combustion engine operation, reading technical manuals, and customer relations.

Remarks

This course will involve some special education students for employment in low skill jobs: pumping gas, clean-up, installing simple automotive accessories, window cleaning, washing and waxing, lubrication, tire repair and installing. It will also train future managers of service stations. Spin-off to the regional school is anticipated for the more advanced students in auto mechanics. See OE training guides OE-87026 and OE-87041.

Remarks (Continued)

Seat cover installation will be given in the auto shop, but may share instructors with upholstery and serve as a unit in upholstery.

Internal combustion engines have been removed from Course No. 8, Small Engine and Appliance Repair. Small gasoline engines in such items as generators, agricultural equipment (sprayers, chain saws, lawn mowers, tractors, and snow plows), and outboard motors will be serviced in the auto shop. There is overlap with work to be done in building and grounds maintenance, a cluster is indicated. Similarity of tools suggests most work to be done in the auto shop.

Occupational Goals
Automotive Services and Small Engines

Vocational Entrant			Prevocational	
DOT Occupational Title		Worker Trait Group	Program or DOT Title	
620.884-054	Used-car renovator (ret. tr.)	Manipulating	Clutch rebuilder	620.884-018
806.381-034	New-car get-ready man (auto ser.	Crafts & Rel. Wk.	Glass installer	865.884-014
163.158-010	Spare-parts field representative	Purchase and Sales Work		
280.458-010	Sales person, automobile accessories	Demonstration and Sales Work		
919.368-010	Car rental dispatcher	Facil., Ser. & Exped. Work		
620.281-014	Automobile mechanic (auto ser.)	Crafts & Rel. Wk.		
620.281-018	Automobile tester (auto ser.)	Crafts & Rel. Wk.		
620.381-014	Automobile service mechanic (auto ser.)I	Crafts & Rel. Wk.		
620.884-010	Automobile mechanic helper (auto ser.)	Manipulating		
620.281-034	Brakeman, automobile (auto ser.)	Crafts & Rel. Wk.		
620.281-042	Carburetor man (auto ser.)	Crafts & Rel. Wk.		
620.281-062	Front-end man (auto ser.)	Crafts & Rel. Wk.		
620.281-106	Tune-up man (auto ser.)	Crafts & Rel. Wk.		
Unlisted	Lube man	Manipulating		
	Wash man	Manipulating		
620.884-014	Brake adjuster (auto ser.)	Manipulating		
780.884-010	Automobile-seat cover installer (auto ser.)	Manipulating		
806.884-022	Automobile-accessories installer (auto ser.)	Manipulating		
807.884-050	Muffler installer (auto ser.)	Manipulating		
825.281-030	Electrician, automotive (auto ser.)	Crafts & Rel. Wk.		
620.281-094	Tractor mechanic (any ind.)	Crafts & Rel. Wk.		
620.884-050	Tractor mechanic helper (any ind.)	Manipulating		
620.281-086	Motorcycle repairman (auto ser.)	Crafts & Rel. Wk.		
625.281-034	Gasoline engine repairman	Crafts & Rel. Wk.		
625.281-038	Outboard motor tester	Crafts & Rel. Wk.		
625.281-042	Power-saw mechanic (any ind.)	Crafts & Rel. Wk.		

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 11: AIR CONDITIONING AND REFRIGERATION

AIR CONDITIONING, USOE CODE 17.01

Classroom and shop experiences which enable the student to become proficient in the installation, repair and maintenance of commercial and domestic air conditioning systems. Included is instruction in the theory and application of basic principles involved in conditioning of air - cooling, heating, filtering, and controlling humidity; the operating characteristics of various units and parts; blueprint reading; the use of technical reference manuals; the diagnosis of malfunctions; the overhaul, repair, and adjustment of units and parts such as pumps, compressors, valves, springs, and connections; and the repair of electric and pneumatic control systems.

COOLING, USOE CODE 17.0101

Learning experiences specifically concerned with the installation, operation, testing, and troubleshooting of various types of air cooling equipment and of the controls needed for operation.

VENTILATING (FILTERING AND HUMIDIFICATION), USOE CODE 17.0103

Learning experiences specifically concerned with the installation, operation, testing and troubleshooting of various air quality control equipment such as humidifiers, filters, fans, and related equipment.

REFRIGERATION, USOE CODE 17.30

Classroom and shop experiences concerned with commercial chilling and freezing systems, including theory, application, and operating of compressors, expansion and float valves, thermostats, and pressure controls; diagnosing overhauling, and testing methods and procedures; charging and discharging systems with refrigerants; and testing hermetic units, relays, and overload devices.

Remarks

This course will also involve technically oriented students in exploratory courses. Physics courses will use this lab for related science in certain units. Such interaction will allow excellent guidance to occur for vocational choices and serve as a damper on flooding the labor market. This field is an example of technical (mechanical) skill clusters.

Occupational Goals
Air Conditioning and Refrigeration

Vocational Entrant			Prevocational	
DOT Occupational Title		Worker Trait Group		
620.281-010	Air conditioning mechanic (auto. ser.)	Crafts and Related Work	Environmental Control technology	16.0110
637.281-010	Air conditioning mechanic, commercial	Crafts and Related Work	Cooling	16.011001
637.281-014	Air conditioning mechanic, domestic	Crafts and Related Work	Refrigeration	16.011003
637.281-034	Refrigeration mechanic	Crafts and Related Work	Industrial technology	16.0111
827.381-022	Refrigeration mechanic	Manipulating	Industrial marketing	04.12
637.381-014	Refrigeration unit repairman	Crafts and Related Work	038.281-010	Automated Equipment Engineer-technician (mach. mfg.)
827.381-010	Air conditioning unit tester	Manipulating	919.782-010	Refrigerating machine operator (motor trans.)
827.884-014	Air conditioning installer	Manipulating	950.132-010	Refrigeration foreman (any ind.)
			950.782-042	Reefer engineer (water trans.)
			950.782-046	Refrigerating engineer (any ind.)
			801.381-014	Aircraft mechanic heat and vent (aircraft mfg.)
			184.168-074	Manager, locker plant (motor trans.; whole tr.)

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 12: DISTRIBUTIVE EDUCATION

ADVERTISING SERVICES, USOE CODE 04.01

Organized subject matter and learning experiences related to planning, development, placement, and evaluation tasks performed by distributive employees and management personnel in demand creation and sales promotion activities utlilizing displays, merchandising aids, and mass media in such enterprises as advertising agencies, display houses, retail and wholesale establishments, and production industries.

APPAREL AND ACCESSORIES, USOE CODE 04.02

Organized subject matter and learning experiences related to the variety of sales, fashion coordination, and sales-supporting tasks performed by distributive employees and management personnel in retail and wholesale establishments primarily engaged in selling clothing of all kinds, including related articles for personal wear and adornment.

AUTOMOTIVE, USOE CODE 04.03

Organized subject matter and learning experiences related to the variety of sales and sales-supporting tasks performed by distributive employees and management personnel in retail, wholesale, and service establishments engaged in selling, renting, storing or caring of cars and trucks, and in selling automotive parts, accessories and equipment.

FOOD SERVICES, USOE CODE 04.07

Organized subject matter and learning experiences related to the sales and sales-supporting tasks performed by distributive employees and management personnel in establishments serving prepared foods for consumption on their own premises or at a place designated by the customer.

GENERAL MERCHANDISE, USOE CODE 04.08

Organized subject matter and learning experiences related to a variety of sales and sales-supporting tasks performed by distributive employess and management personnel engaged primarily in selling various types of merchandise at retail in department stores, junior department stores, variety stores, general merchandise stores, discount stores, and catalog houses.

HARDWARE, BUILDING MATERIALS, FARM AND GARDEN SUPPLIES AND EQUIPMENT, USOE CODE 04.09

Organized subject matter and learning experiences related to various sales and sales-supporting tasks performed by distributive employees and management personnel in establishments engaged primarily in selling one or more of the following product lines at retail, at wholesale, or to contractors: hardware, paint, wallpaper, lumber, building materials, supplies and equipment for home construction, or farm and garden supplies and equipment.

HOME FURNISHINGS, USOE CODE 04.10

Organized subject matter and learning experiences related to various sales and sales-supporting tasks performed by distributive employees and management personnel in retail and wholesale establishments engaged primarily in selling home furnishings such as furniture, household appliances, floor coverings, draperies, and specialized lines of home items.

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 12: DISTRIBUTIVE EDUCATION (Continued)

PERSONAL SERVICES, USOE CODE 04.15
Organized subject matter and learning experiences related to the tasks performed by sales and management personnel in establishments primarily engaged in providing services. Generally, these services are concerned with personal improvement and the care of a person or his apparel. Included in this category are laundries and dry cleaning establishments, shoe repair shops, funeral homes, photographic studios, and dance or art studios.

CASHIERS, USOE CODE 14.0103
Programs concerned with receiving and disbursing money in establishments other than banks, and usually involving the use of machines, including cash registers and change makers.

MATERIALS SUPPORT OCCUPATIONS (TRANSPORTING, STORING, AND RECORDING), USOE CODE 14.05
Planned learning activities which include a combination of courses and practical experiences concerned with (1) receiving, storing, issuing, shipping, requisitioning, and accounting for stores of material or material in use; (2) assigning locations and space to items, including verification of quality, identification, condition, and value; (3) preparing or committing stocks for shipment; (4) inventorying stock; (5) replenishing depleted items; and (6) filling orders and issuing tools, equipment, or materials to workers.

SHIPPING AND RECEIVING CLERKS, USOE CODE 14,0503
Programs concerned with assembling, packing, addressing, stamping or receiving, unpacking, verifying, and recording incoming merchandise or materials.

Remarks

The course will take major students and will also offer specialty units to other students within the occupational conglomerate. The experiences in some subject areas will rely upon opportunities outside the school. Basic knowledges will be given in a core course dealing with salesmanship retailing, inventory control, and shipping. Other course descriptions may mention more courses or DOT positions which rely heavily on product knowledge.

Occupational Goals
Distributive Education

Vocational Entrant			Prevocational	
DOT	Occupational Title	Worker Trait Group		
277.358-030	Salesperson, lawn and garden equipment & supplies (ret. tr.; whole tr.)	Demonstration and Sales Work	FINANCE AND CREDIT	04.04
929.137-026	Yardman (ret. tr.) I	Super. Wk. (Farm., Mfg. etc.	FOOD DISTRIBUTION	04.06
162.158-114	Second-hand furniture dealer (ret. tr.; whole. tr.)	Purchasing & Sales Work	HOTEL AND LODGING	04.11
187.168-010	Appliance-service supervisor (light, heat & power)	Apprais. & Investigat. Work	INDUSTRIAL MARKETING	04.12
191.287-010	Appraiser, furniture (ret. tr.)	Apprais. & Investigat. Work	INTERNATIONAL TRADE	04.14
256.258-010	Salesman, upholstery and furniture repair (ret. tr.)	Demonstration and Sales Work	PETROLEUM	04.16
274.358-010	Floor-coverings estimator (ret. tr.)	Demonstration and Sales Work	TRANSPORTATION	04.19
369.468-010	Repair estimator (per. ser.)	Customer Ser. Work, n.e.c.	RECREATION AND TOURISM	04.18
369.478-014	Service-establishment attendant (per. ser.)	Customer Ser. Work, n.e.c.		
276.358-018	Salesman, hardware supplies (whole. tr.)	Demonstration and Sales Work		
276.358-058	Salesperson, general hardware (ret. tr.; whole. tr.)	Demonstration and Sales Work		
290.877-010	Salesperson, food (ret. tr.)	Mis. Customer Serv. Work		
216.488-022	Food checker (hotel & rest.) I	Comput. & Rel. Record.		
211.468-010	Cashier (clerical) II	Cash. (Theater, Rest. & Rel.)		
274.358.014	Salesman, custom drapery (ret. tr.)	Demonstration and Sales Work		
274.358-018	Salesman, floor coverings (ret. tr.; whole. tr.)	Demonstration and Sales Work		
274.358-022	Salesman, housefurnishings (whole. tr.)	Demonstration and Sales Work		
274.358-030	Salesperson, curtain and drapery (ret. tr.; whole. tr.)	Demonstration and Sales Work		
274.358-034	Salesperson, furniture (ret. tr.)	Demonstration and Sales Work		
278.258-018	Salesperson, Hi-Fi (ret. tr.)	Demonstration and Sales Work		
278.358-010	Salesman, gas-or-electric appliances (light, heat & power)	Demonstration and Sales Work		
278.358-014	Salesman, household equipment (whole. tr.)	Demonstration and Sales Work		

Occupational Goals (Continued)

Distributive Education

Vocational Entrant		Prevocational
DOT Occupational Title	Worker Trail Group	
278.358-018 Salesman, radio and television parts (whole. tr.)	Demonstration and Sales Work	
278.358-022 Salesman, sewing machine (ret. tr.)	Demonstration and Sales Work	
278.358-030 Salesperson, television and appliances (ret. tr.)	Demonstration and Sales Work	
299.488-010 Drapery and upholstery estimator (ret. tr.)	Comput. & Rel. Record.	
299.686-014 Furniture inspector (ret. tr.)	Sort., Inspect. & Rel. Work	
240.368-010 Collector (clerical)	Info. Gather, Dispens., & Rel.	
241.368-010 Adjustment clerk (clerical)	Info. Gather, Dispens., & Rel.	
310.868-010 Hostess, Restaurant or coffee shop	Accommodating Work	
311.878-010 Bus boy	Misc. Per. (Food Ser.)	
311.878-034 Floor girl, cafeteria	Misc. Per. (Food Ser.)	
311.878-022 Counterman	Misc. Per. (Food Ser.)	
222.138-022 Rate supervisor (clerical)	Super. Wk. (Clerical & Rel.)	
222.138-026 Shipping clerk (clerical) I	Super. Wk. (Clerical & Rel.)	
222.368-014 Expeditor (clerical) I	Facil., Ser., & Exped. Wk.	
222.387-018 Receiving clerk (clerical)	Inspect. & Stock Check.	
222.387-022 Returned-goods receiving clerk (clerical)	Inspect. & Stock Check.	

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 13: BOOKKEEPING/RECORD KEEPING

ACCOUNTING AND COMPUTING OCCUPATIONS, USOE CODE 14.01
Planned learning experiences which include a combination of courses and practical experiences concerned with systematizing information about transactions and activities into accounts and quantitative records, and paying and receiving money.

BOOKKEEPERS, USOE CODE 14.0102
Programs concerned with computing, classifying, and recording numerical data to keep financial records.

MACHINE OPERATORS: BILLING, BOOKKEEPING, AND COMPUTING, USOE CODE 14.0104
Programs concerned with operations and procedures utilizing office machines for billing, posting, calculating, adding, listing, and mechanizing data (other than business data processing equipment).

MATERIALS SUPPORT OCCUPATIONS (TRANSPORTING, STORING, AND RECORDING), USOE CODE 14.05
Planned learning activities which include a combination of courses and practical experiences concerned with (1) receiving, storing, issuing, shipping, requisitioning, and accounting for stores of material or material in use; (2) assigning locations and space to items, including verification of quality, identification, condition, and value; (3) preparing or committing stocks for shipment; (4) inventorying stock; (5) replenishing depleted items; and (6) filling orders and issuing tools, equipment, or materials to workers.

PLANNING AND PRODUCTION CLERKS, USOE CODE 14.0501
Programs concerned with routing parts for fabricating operations or repairs, developing work plans prior to production, scheduling work for and delivering parts to avoid overproduction, compiling records and reports on the number and types of units produced, and scheduling shipment of parts.

STOCK AND INVENTORY CLERKS, USOE CODE 14.0504
Programs concerned with receiving, storing, shipping, and issuing supplies, materials, and equipment in a stockroom or warehouse environment, including taking inventories, keeping records, and requisitioning stock.

TRAFFIC, RATE, AND TRANSPORTATION CLERKS, USOE CODE 14.0505
Programs concerned with calculating fares for carriers from rate tables. Included are the study of maps to select or lay out, and measure travel routes, considering type of vehicle, distance, destination, and passenger or rate service; the preparation of written reports or informing customers orally; and computing schedules and cost factors.

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Remarks

This course is to be expanded to service all potential roles to be filled by graduates of the occupational conglomerate. [illegible] similar skills and are clustered here. There is a definite interface with distributive

Remarks (Continued)

education. Many skills can be practiced in simulated office situations or actual operations managed by students in the Trade and Industrial Education department. All entrepreneurship students receive training in this course.

Occupational Goals

Bookkeeping/Record Keeping

Vocational Entrant			Prevocational
DOT Occupational Title		Worker Trait Group	
221.138-014	Yields supervisor (clerical)	Super. Wk. (Clerical & Rel.)	ACCOUNTANTS, USOE CODE 14.0101
221.168-010	Material coordinator (any ind.)	Sched. Exped. & Rel. Wk.	Programs concerned with the para-professional duties supporting the accountant in organizing, designing, and controlling numerical and financial data.
221.168-018	Production coordinator (clerical)	Sched. Exped. & Rel. Wk.	
221.168-026	Spares scheduler (clerical)	Sched. Exped. & Rel. Wk.	
221.388-030	Industrial-order breakdown clerk (any ind.)	Comput. & Rel. Record.	
221.388-042	Order detailer (clerical)	Classif., Filing, & Rel. Wk.	
221.388-054	Production clerk (clerical) II	Comput. & Rel. Record.	
221.388-074	Work-order clerk (clerical) II	Classif., Filing, & Rel. Wk.	
221.588-022	Job tracer (clerical)	Routine Check, & Record.	
210.388-010	Account-classification clerk (clerical)	Comput. & Rel. Record.	
210.388-014	Audit Clerk (clerical)	Comput. & Rel. Record.	
210.388-018	Billing control clerk (light, heat, & power)	Comput. & Rel. Record.	
210.388-022	Bookkeeper (clerical) I	Comput. & Rel. Record.	
210.388-026	Bookkeeper (clerical) II	Comput. & Rel. Record.	
210.388-030	Classification-control clerk (clerical)	Comput. & Rel. Record.	
222.588-010	Delivery clerk (clerical)	Routine Check. & Record.	
222.588-026	Traffic clerk (clerical) I	Routine Check. & Record.	
222.588-030	Traffic clerk (clerical) II	Routine Check. & Record.	
911.388-010	Receipt-and-report clerk	Comput. & Rel. Record.	
919.168-010	Dispatcher, motor vehicle (clerical)	Sched., Exped. & Rel. Wk.	
223.138-026	Stock supervisor (ret. tr.)	Sched., Exped. & Rel. Wk.	
223.138-030	Stock-control supervisor (clerical)	Sched., Exped. & Rel. Wk.	
223.138-034	Supervisor, assembly stock (clerical)	Sched., Exped. & Rel. Wk.	

Occupational Goals (Continued)

Bookkeeping/Record Keeping

Vocational Entrant		Prevocational
DOT Occupational Title	Worker Trait Group	
223.138-038 Supervisor, stock (clerical)	Sched., Exped. & Rel. Wk.	
223.388-014 Inventory clerk (clerical)	Sched., Exped. & Rel. Wk.	
223.388-018 Inventory clerk, stockroom (clerical)	Sched., Exped. & Rel. Wk.	
211.488-010 Money counter (ret. tr.; whole. tr.)	Comput. & Rel. Record.	
214.488-010 Billing-machine operator (clerical)	Comput. & Rel. Record.	
215.388-010 Bookkeeppng-machine operator (clerical) I	Comput. & Rel. Record.	
215.488-010 Payroll clerk (clerical)	Comput. & Rel. Record.	
216.388-010 Balance clerk (clerical)	Comput. & Rel. Record.	
216.388-014 Bank-reconciliation clerk (clerical)	Comput. & Rel. Record.	
216.488-010 Adding machine operator (clerical)	Comput. & Rel. Record.	
216.488-018 Calculating machine operator (clerical)	Comput. & Rel. Record.	

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 14: TYPING, STENOGRAPHY, AND RELATED OFFICE OCCUPATIONS

FILING, OFFICE MACHINES, AND GENERAL OFFICE CLERICAL OCCUPATIONS, USOE CODE 14.03

Planned learning experiences which include a combination of courses and practical experiences concerned with the recording and retrieval of data, including classifying, sorting and filing correspondence, records, and other data.

RECEPTIONISTS AND INFORMATION CLERKS, USOE CODE 14.0406

Programs concerned with meeting the public through (1) answering telephone and information requests; (2) locating offices and employees; and (3) keeping records of callers, making appointments, interviewing people to secure required data, e.g., hospital admittance data, insurance data, and similar information.

STENOGRAPHIC, SECRETARIAL, AND RELATED OCCUPATIONS, USOE CODE 14.07

Planned learning activities which include a combination of courses and practical experiences concerned with making, classifying, and filing records, including written communications.

EXECUTIVE SECRETARY, USOE CODE 14.0701

Programs concerned with secretarial coordinating, expediting, and facilitating functions of the office for aiding the executive under his direction and in a confidential relationship. (See also 14.0801 ADMINISTRATIVE ASSISTANTS under SUPERVISORY AND ADMINISTRATIVE MANAGEMENT OCCUPATIONS.)

SECRETARIES, USOE CODE 14.0702

Program related to occupations concerned with carrying out administrative and general office duties, in addition to taking and transcribing dictation.

STENOGRAPHERS, USOE CODE 14.0703

Programs concerned with taking shorthand or special writing of notes by hand or machines and transcribing them.

CLERK-TYPISTS, USOE CODE 14.0901

Programs concerned with the performance of general clerical work requiring the use of a typewriter in a majority of the duties, including compiling and typing reports, application forms, shipping tickets, and other data from clerical records. Activities also include filing records and reports, posting information to records, sorting and distributing mail, answering telephones, computing with adding machines, and other similar duties.

TYPISTS, USOE CODE 14.0902

Programs concerned with recording data by means of a typewriter or similar device.

Remarks

The course includes many skills, not all obtainable by all students. Basically, this cluster of scheduled units depends on the ability to type. Upon this base, students can expand into many areas, including special service areas as medicine and law. Specialization in information retrieval across disciplines is another method of specializing, capitalizing on aptitudes. Certain skills, such as composer use, will overlap with graphic arts.

Occupational Goals

Typing, Stenography and Related Office Occupations

Vocational Entrant			Prevocational	
DOT	Occupational Title	Worker Trait Group		
237.368-010	Admitting officer (medical ser.) I	Info. Gather., Dispens., & Rel.	169.168-014	Administrative Assistant (any ind.)
237.368-014	Appointment clerk (clerical)	Info. Gather., Dispens., & Rel.		
237.368-018	Hospital-admitting clerk (med. ser.)	Info. Gather., Dispens., & Rel.	202.388-022	Stenotype Operator (clerical)
237.368-022	Information clerk (clerical)	Info. Gather., Dispens., & Rel.		
237.368-030	Out-patient admitting clerk (med. ser.)	Info. Gather., Dispens., & Rel.	201.368-010	Legal Secretary (clerical)
237.368-038	Receptionist (clerical)	Info. Gather., Dispens., & Rel.	201.368-014	Medical Secretary (clerical)
237.368-042	Registrat (gov. ser.)	Info. Gather., Dispens., & Rel.		
237.368-046	Registration clerk (gov. ser.) II	Info. Gather., Dispens., & Rel.		
209.388-022	Clerk-typist (clerical)	Classif., Filing, & Rel. Wk.		
209.388-010	Bordereau clerk (insurance)	Classif., Filing, & Rel. Wk.		
203.138-010	Telegraphic-typewriter operator, chief (clerical)	Super. Wk. (Clerical & Rel.)		
203.138-014	Typing section chief (clerical)	Super. Wk. (Clerical & Rel.)		
203.582-014	Vari-typist (clerical)	Typeset., Repre. & Rel. Wk.		
203.588-014	Telegraphic-typewriter operator (clerical)	Typing & Rel. Record.		
203.588-018	Typist (clerical)	Typing & Rel. Record.		
201.368-018	Secretary (clerical)	Secretarial & Related Work		
202.388-010	Court reporter (clerical)	Stenog. & Related Work		
202.388-014	Stenographer (clerical)	Stenog. & Related Work		
202.388-018	Stenographer, print shop (print & pub.)	Stenog. & Related Work		
169.168-018	Administrative secretary (any ind.)	Manag. Work		

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 15: DATA PROCESSING

MACHINE OPERATORS: BILLING, BOOKKEEPING AND COMPUTING, USOE CODE 14.0104

Programs concerned with operations and procedures utilizing office machines for billing, posting, calculating, adding, listing, and mechanizing data (other than business data processing equipment).

PERIPHERAL EQUIPMENT OPERATORS, USOE CODE 14.0202

Programs concerned with the operation of equipment which is auxiliary or peripheral to the operation of the electronic data computer. Included are the operations of tabulating printers and card sorters, interpreters, and related equipment.

KEY PUNCH AND CODING EQUIPMENT OPERATORS, USOE CODE 14.020201

Programs concerned with operating alphabetic/numerical key punch machines for transcribing data from source materials and machines that print identification codes on wire, tape, plastic tubing, and other materials, including installing specified type, code letters, and symbols in mandrels. Use of verifiers also is involved.

Remarks

Cooperative education may be necessary to access some data processing machinery.

Occupational Goals
Data Processing

Vocational Entrant			Prevocational	
DOT	Occupational Title	Worker Trait Group		
213.582-010	Key-punch operator (clerical)	Typeset., Repre. & Rel. Wk.	Programmers	USOE CODE 14.0203
213.588-010	Data typist (clerical)	Typing & Rel. Record.	Computer and Console Operator	14.0203
213.588-014	Verifier operator (clerical)	Typing & Rel. Record.	213.382-014	Computer-peripheral-equipment operator (clerical)
213.782-010	Tabulating-machine operator (clerical)	Operating-controlling	213.382-022	High speed printer operator (clerical)
213.885-010	Sorting machine operator (clerical)	Tending		
214.488-010	Billing-machine operator (clerical)	Comput. & Rel. Record.		
215.388-010	Bookkeeping machine operator (clerical) I	Comput. & Rel. Record.		
215.388-014	Bookkeeping machine operator (clerical) II	Comput. & Rel. Record.		
216.488-014	Audit machine operator (clerical)	Comput. & Rel. Record.		
216.488-018	Calculating machine operator (clerical) (electronic)	Comput. & Rel. Record.		

INSTRUCTIONAL PROGRAMS FOR COURSE NO. 16: ENTREPRENEURSHIP AND MANAGERIAL WORK

MATERIALS SUPPORT OCCUPATIONS (TRANSPORTING, STORING, AND RECORDING), USOE CODE 14.05
Planned learning activities which include a combination of courses and practical experiences concerned with (1) receiving, storing, issuing, shipping, requisitioning, and accounting for stores of material or material in use; (2) assigning locations and space to items, including verification of quality, identification, condition, and value; (3) preparing or committing stocks for shipment; (4) inventorying stock; (5) replenishing depleted items; and (6) filling orders and issuing tools, equipment, or materials to workers.

SMALL BUSINESS MANAGEMENT (No code, but related to 01.0104)

FARM BUSINESS MANAGEMENT, USOE CODE 01.0104
Planned learning activities which are concerned with farm resource analysis, accounting, production, financing, resource acquisition, purchasing, farm inputs, performance records, contracts, farm marketing and maintenance. The results of these learning activities are applied to formulating decisions involved in managing a farm or ranch operation.

SIMULATED OFFICE PRACTICE (No code)
This program involves Courses 12-15 in a practicum of office skills. The skills of team work and management are acquired in proper relationship to all aspects of a functioning business.

Remarks

Patterned after the USOE Farm Business Management program, a new program is to be created: Small Business Management. Reworded, it could be described as

> Planned learning activities which are concerned with small service business market analysis (relation to small business administration and banks), accounting, production of profit, financing, resource acquisition, purchasing, marketing, hiring and management, maintenance of assets, and tax filing. Simulated business experience or cooperative training will allow practice.

In conjunction with distributive education, this course prepares capable students who, after some on-the-job experience, will be capable of starting their own small business in such areas as furniture repair, auto-service station, office cleaning, nursery school, and appliance repair.

Vocational Entrant (delayed until a few years of experience gained). DOT Occupational Titles given under various courses will reveal various crafts and related work which lend themselves to entrepreneurship.